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ABSTRACT

This guide is designed for use in helping junior and senior high school students explore the field of dental technology as a potential career area. Included in the manual are the following materials: definitions, a key to the organization and numbering code and symbols used in the lists of objectives, lists of general and program objectives with recommended instructional levels, a flow chart detailing the organizational pattern of the course of study to prepare students for careers in dental technology, descriptions of pertinent required and elective courses, suggested facilities layouts, guidelines for classroom safety and health, a discussion of strategies for mainstreaming disabled students through the development of individualized educational programs (IEPs), a competency profile for vocational teachers instructing sensory and physically impaired students, a self-assessment evaluation form for teachers, and a sample certificate of completion. (MN)

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DS Manual 2835.1
April 1984

ED262199

Dental Technology

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career education

DS Manual 2835.1
April 1984

DENTAL TECHNOLOGY

Department of Defense Dependents Schools

CAREER EDUCATION

GE 042512

FOREWORD

The health industry is now one of the leading career opportunity fields in the nation and is continuing to grow. As the level of health service improves each year the demand for qualified professionals and technicians increases.

The Dental Program is designed to provide the student with realistic training in theory and practice within the DoDDS educational framework. In some cases the program will provide entry level skills for employment after graduation. In other cases, due to licensing restrictions, it provides a sound basis and motivation for post secondary education.

The Dental Program provides an opportunity for the student to acquire elementary knowledge of terminology, sterilization, asepsis, instrumentation, and materials, as well as the clinical, office and laboratory procedures common to a wide variety of health occupations.

This manual has been prepared to assist the Dental instructor in presenting curriculum content based upon selected technologies with applications to the Dental professions.

Steve Motta
Deputy Director

ACKNOWLEDGEMENTS

The Dental Objectives Manual is a revised version of the 1977 document. We appreciate the efforts of the many DoDDS educators who helped prepare that original document.

During SY 1983-84, educators from five regions, Atlantic, Germany, Mediterranean, Pacific, and Panama, were tasked to review and revise the Dental Objectives. DoDDS is indebted to the many persons from throughout the system who contributed to this document and particularly to the following educators:

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PHILOSOPHY

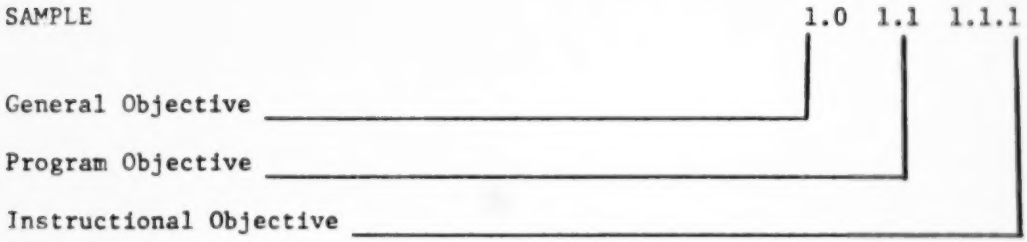
We believe the goal of education is to produce self-actualizing, self-supporting individuals capable of using their talents and skills to the utmost. This goal can be implemented by early orientation to a career.

The Dental field is well suited to this goal because, as the Department of Labor statistics indicate, in the coming decade there will be numerous new job openings in the health care field. It is also one in which the cognitive and life skills are reinforced and embellished by their practical application within the program.

Our philosophy is to introduce students to the ideals, standards, and work attitudes of the dental and health care occupations and to accept entry-level positions in the health care industry.

ORGANIZATION AND NUMBERING CODE

The numbering code is used to indicate the levels of the objective.



The first digit of the number of each statement refers to the general objective.

The second digit refers to the program objective.

The third digit refers to the instructional objective.

Instructional objectives are not to be considered inclusive, but are only presented as examples.

The numbering code is used to facilitate:

- Identification of objectives.
- Correlation of objectives with textbook and instructional materials.
- Matching of test items to objectives.

USE OF SYMBOLS

Within the recommended instructional levels, the letter E represents the suggested entry point at which instruction begins.

The letter P indicates the level at which proficiency would normally be expected.

All General, Program, and Instructional Objectives should be read with the understanding that they are preceded by the phrase, "The learner should....."

	RECOMMENDED INSTRUCTIONAL LEVELS		
	K - 5	6 - 8	9 - 12
Sample Instructional Objectives			
2.4.1 Generate a personal grooming plan.	E_____P		
3.5.1 Identify various dental procedures.		E_____P	

GENERAL AND PROGRAM OBJECTIVES

1.0 APPRECIATE DENTISTRY AS A POSSIBLE CAREER.

1.1 Value the need to incorporate useful aspects of dentistry into a career plan.....5
1.2 Differentiate the characteristics of various careers in dentistry.....6
1.3 Value the need to forecast a future job in dentistry.....7

2.0 VALUE PERSONAL SKILLS THAT PERMIT ONE TO BECOME A FUNCTIONING INDIVIDUAL IN THE DENTAL FIELD.

2.1 Demonstrate positive attitudes and values toward people and work.....8
2.2 Apply oral and written communication used in the world of work.....9
2.3 Demonstrate proficiency in completing employment forms.....10
2.4 Develop a plan for personal grooming.....11

3.0 INTEGRATE SKILLS, ATTITUDES, AND KNOWLEDGE NECESSARY FOR PLACEMENT AND SUCCESS IN A DENTAL CAREER.

3.1 Identify structure and functions of the head.....12
3.2 Employ sterilization and asepsis procedures.....13
3.3 Develop a preventive dentistry program.....14
3.4 Utilize instruments and equipment.....15
3.5 Demonstrate knowledge of dental materials.....16
3.6 Demonstrate chairside assisting skills.....17
3.7 Demonstrate business office skills and procedures.....18
3.8 Utilize safety practices.....19
3.9 Demonstrate laboratory techniques.....19

GENERAL OBJECTIVE: 1.0 APPRECIATE DENTISTRY AS A POSSIBLE CAREER.

PROGRAM OBJECTIVE: 1.1 Value the need to incorporate useful aspects of dentistry into a career plan.

		RECOMMENDED INSTRUCTIONAL LEVELS		
		K - 5	6 - 8	9 - 12
INSTRUCTIONAL OBJECTIVES				
1.1.1	Identify positive attitudes and values toward work.	E_____P		
1.1.2	Demonstrate good work habits by planning work efficiently.	E_____P		
1.1.3	Demonstrate attitudes of respect and cooperation in order to work harmoniously with fellow employees.		E_____P	
1.1.4	Examine the life of a professional dental person.		E_____P	
1.1.5	Identify the education requirements for various specialized dental programs			E___P
1.1.6	Formulate a career plan considering abilities, interests, and beliefs.			E___P

PROGRAM OBJECTIVE: 1.2 Differentiate among the characteristics of various careers in dentistry.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
1.2.1	Develop a basic dental vocabulary.		E_____P	
1.2.2	Describe the major tasks that a person performs in specific dental careers.		E_____P	
1.2.3	Differentiate among the entry-level skills required in different dental careers.		E_____P	
1.2.4	Describe the social and physical working conditions of several specific dental careers.			E___P
1.2.5	Compare the salary ranges of several jobs within the various dental clusters.			E___P

PROGRAM OBJECTIVE: 1.3 Value the need to forecast a future job in dentistry.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
1.3.1	Analyze the types of dental careers available now.		E_____P	
1.3.2	Predict the effects of technical and social changes in the dental field.			E___P
1.3.3	Synthesize from appropriate data the kind of dental careers that will be available in the near future.			E___P

GENERAL OBJECTIVE: 2.0 VALUE PERSONAL SKILLS THAT PERMIT ONE TO BECOME A FUNCTIONING INDIVIDUAL IN THE DENTAL FIELD.

PROGRAM OBJECTIVE: 2.1 Demonstrate positive attitudes and values toward people and work.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.1.1	Identify traits that promote good human relations.	E_____P		
2.1.2	Value the need to develop effective interpersonal communications between dentist, assistant, and laboratory technician.			E____P
2.1.3	Develop an awareness of processes in verbal interactions.	E_____P		
2.1.4	Display personality traits that increase job effectiveness.		E_____P	

PROGRAM OBJECTIVE: 2.2 Apply oral and written communication used in the world of work.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.2.1	Apply the principles of grammar, spelling, and punctuation in written communication.		E_____P	
2.2.2	Plan and write effective correspondence.			
2.2.3	Use expanded dental vocabulary and reference materials effectively.		E_____P	
2.2.4	Demonstrate skill in the use of language through oral communication.		E_____P	

PROGRAM OBJECTIVE: 2.3 Demonstrate proficiency in completing employment forms.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.3.1	Complete a social security application form.			E___P
2.3.2	Complete an application form for employment.			E___P
2.3.3	Complete withholding exemption certificate (W-4 form).			E___P

PROGRAM OBJECTIVE: 2.4 Develop a plan for personal grooming.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
2.4.1	Generate a personal grooming plan.	E_____P		
2.4.2	Demonstrate good grooming habits.	E_____P		
2.4.3	Evaluate personal grooming practices.		E_____P	
2.4.4	Incorporate a personal grooming plan into daily life.		E_____P	

GENERAL OBJECTIVE: 3.0 INTEGRATE SKILLS, ATTITUDES, AND KNOWLEDGE NECESSARY FOR PLACEMENT AND SUCCESS IN A DENTAL CAREER.

PROGRAM OBJECTIVE: 3.1 Identify structure and functions of the head.

		RECOMMENDED INSTRUCTIONAL LEVELS		
INSTRUCTIONAL OBJECTIVES		K - 5	6 - 8	9 - 12
3.1.1	Identify anatomical structures of the head.		E_____P	
3.1.2	Illustrate anatomical parts of the tooth and surrounding area.		E_____P	
3.1.3	Describe tooth morphology.			E___P
3.1.4	Recognize congenital and acquired oral defects.			E___P

PROGRAM OBJECTIVE: 3.2 Employ sterilization and asepsis procedures.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
3.2.1	Discuss control of microbial activity.			E___P
3.2.2	Prepare instruments for sterilization.			E___P
3.2.3	Follow basic sterilization procedures.			E___P
3.2.4	Select appropriate sterilization technique from accepted criteria.			E___P

PROGRAM OBJECTIVE: 3.3 Develop a preventive dentistry program.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
3.3.1	Discuss the disease process involved in decay and peridontal disease.	E		P
3.3.2	Relate importance of preventive care measures.	E		P
3.3.3	Outline dietary program to promote dental health.	E		P
3.3.4	Develop specific preventive dentistry program.	E		P
3.3.5	Maintain necessary oral hygiene.	E		P

PROGRAM OBJECTIVE: 3.4 Utilize instructions and equipment.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
3.4.1	Identify dental instruments and equipment.			E___P
3.4.2	Perform daily maintenance of dental equipment and handpieces.			E___P
3.4.3	Select necessary instruments and equipment for specific dental procedures.			E___P
3.4.4	Display ability to operate dental equipment safely.			E___P

PROGRAM OBJECTIVE: 3.5 Demonstrate knowledge of dental materials.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS		
		K - 5	6 - 8	9 - 12
3.5.1	Identify various dental materials.		E_____P	
3.5.2	Select correct materials for dental procedures.			E___P
3.5.3	Prepare dental materials according to manufacturers' instructions.			E___P

PROGRAM OBJECTIVE: 3.6 Demonstrate chairside assisting skills.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
3.6.1	Outline rules of conduct for dental office.		E_____P	
3.6.2	Prepare dental treatment room for patient.			E___P
3.6.3	Select instruments and materials for specific dental operations.			E___P
3.6.4	Perform chairside assisting techniques for selected procedures.			E___P
3.6.5	Demonstrate four-handed dentistry procedures.			E___P

PROGRAM OBJECTIVE: 3.7 Demonstrate business office skills and procedures.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
3.7.1	Perform patient reception procedures.			E___P
3.7.2	Demonstrate telephone skills.		E_____P	
3.7.3	Initiate and maintain appointment book.			E___P
3.7.4	Maintain dental records.			E___P
3.7.5	Perform bookkeeping procedures.			E___P
3.7.6	Discuss dental payment plans.			E___P
3.7.7	Practice inventory and supply control.			E___P
3.7.8	Prepare dental insurance forms.			E___P
3.7.9	Demonstrate ability to operate word processor/computer.			E___P

PROGRAM OBJECTIVE: 3.8 Utilize safety practices.

INSTRUCTIONAL OBJECTIVES		RECOMMENDED INSTRUCTIONAL LEVELS K - 5	6 - 8	9 - 12
3.8.1	Recognize importance of safety practices.	E_____P		
3.8.2	Display safety consciousness by wearing required protective devices.		E_____P	
3.8.3	Integrate safety procedures into daily routine.	E_____P		

PROGRAM OBJECTIVE: 3.9 Demonstrate laboratory techniques.

3.9.1	Draw and carve tooth morphology.	E___P
3.9.2	Demonstrate ability to fill out a dental laboratory prescription form.	E___P
3.9.3	Pour and trim dental models.	E___P
3.9.4	Make and process personalized custom trays.	E___P
3.9.5	Articulate and mount models on articulator.	E___P
3.9.6	Demonstrate ability to make minor denture repairs.	E___P
3.9.7	Demonstrate direct inlay technique.	E___P
3.9.8	Demonstrate full crown technique.	E___P
3.9.9	Process a temporary partial denture using cold cure technique.	E___P
3.9.10	Demonstrate use of surveyor.	E___P

TIME ALLOTMENTS FOR DENTAL PROGRAMS

The determination of time allotments needed for the study of dental careers at various levels is an important consideration for the development of dental offerings within the total school program. The fact that these programs can contribute significantly to the development of each individual student would indicate that they be included in various curriculum areas.

1. Elementary School - Program should provide broad exploratory opportunities.

   Dental should be regularly infused into the normal classroom activities at each grade level, based on the content, to include personal oral hygiene, and an outline of dental health care team responsibilities.

2. Middle/Junior High School - Program should provide continuity and breadth.

   A minimum of 45 hours should be provided in the content areas of dental careers, personal oral hygiene, and work attitudes.

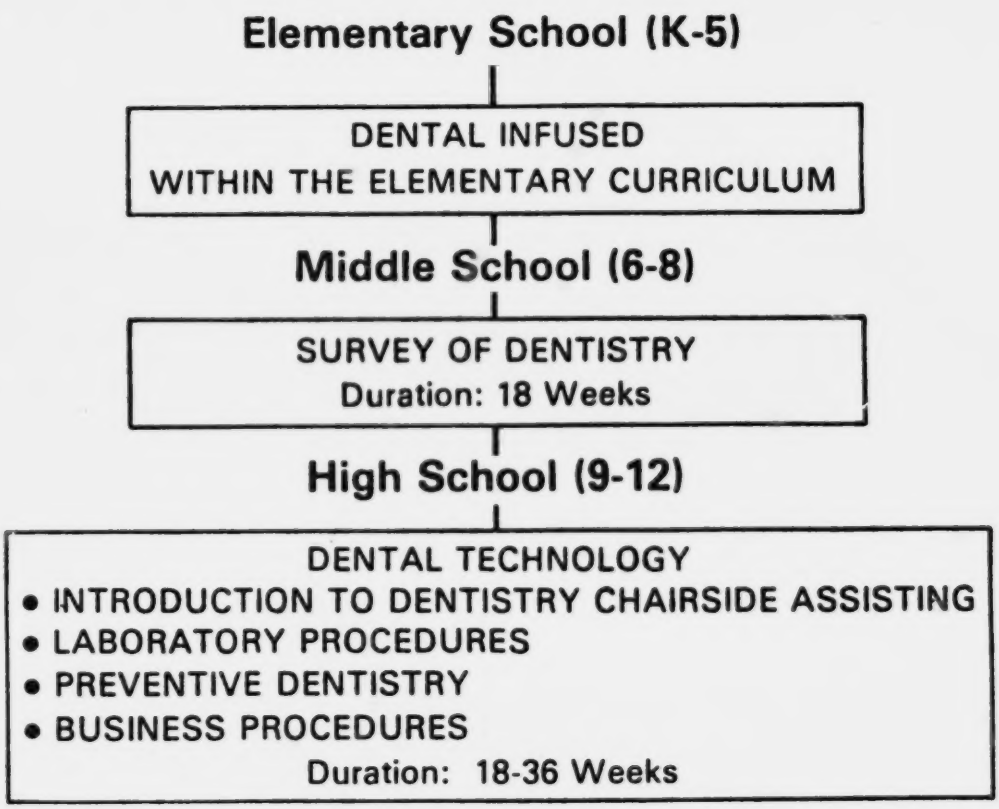
3. Senior High School - Program should provide both breadth and depth.

   High school experiences for students should include dental courses which provide and utilize continuing and in-depth experiences encompassing broad aspects of dentistry.

ORGANIZATIONAL PATTERN FOR DENTAL PROGRAM

The unique functions and objectives noted for dental programs are best achieved by the offering of one course in middle school and one course in high school consisting of four units of instruction.

Organizational Pattern for Dental Program



COURSE DESCRIPTIONS

SURVEY OF DENTISTRY

This course provides the student with a broad overview of the dental profession. Students have the opportunity to explore such areas as preventive dentistry, oral anatomy and terminology, business office practices, and laboratory and chairside procedures.

(Recommended for grades 6-8.)

INTRODUCTION TO DENTISTRY CHAIRSIDE ASSISTING

This course provides the student with a broad overview of the dental profession. Students have the opportunity to explore such areas as preventive dentistry, oral anatomy and terminology, business office practice, and laboratory and chairside procedures. Chairside assisting gives the student the opportunity to work with dental personnel and equipment. The student will become familiar with dental instrumentation, sterilization procedures, and dental assisting.

(Recommended for grades 9-12.)

LABORATORY PROCEDURES

Laboratory procedures enables the student to gain knowledge of various products and procedures found in the practice of dentistry and dental laboratory technology.

(Recommended for grades 9-12)

PREVENTIVE DENTISTRY

This course covers personal oral hygiene practices as well as preventive dentistry as a career choice.

(Recommended for grades 9-12)

BUSINESS PROCEDURES

Business procedures outlines the duties of the secretarial assistant and office manager. The student is introduced to dental terminology, records and management control, recall systems, inventory and supply control, and patient reception skills.

(Recommended for grades 9-12)

RECOMMENDED SPECIFICATIONS FOR DENTAL LABORATORY

The dental laboratory/operatory area will have instruments, materials, and equipment that will provide basic entry-level experiences in chairside assisting, business office procedures, dental laboratory technology, and oral hygiene care.

The general laboratory area should have several sinks with hot/cold water and industrial plaster traps.

The laboratory area should have work benches to include waste disposal.

It is recommended that the area encompass 1,400 square feet.

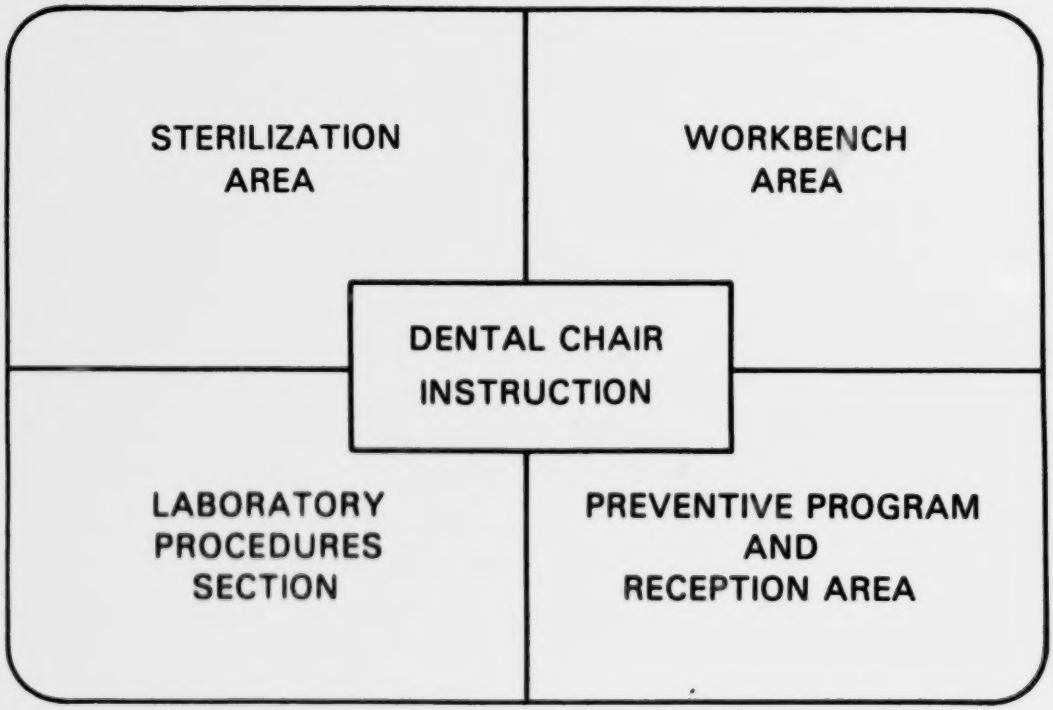
There should be multiple electrical wall outlets.

There should be gas and air hook-ups for each student work area.

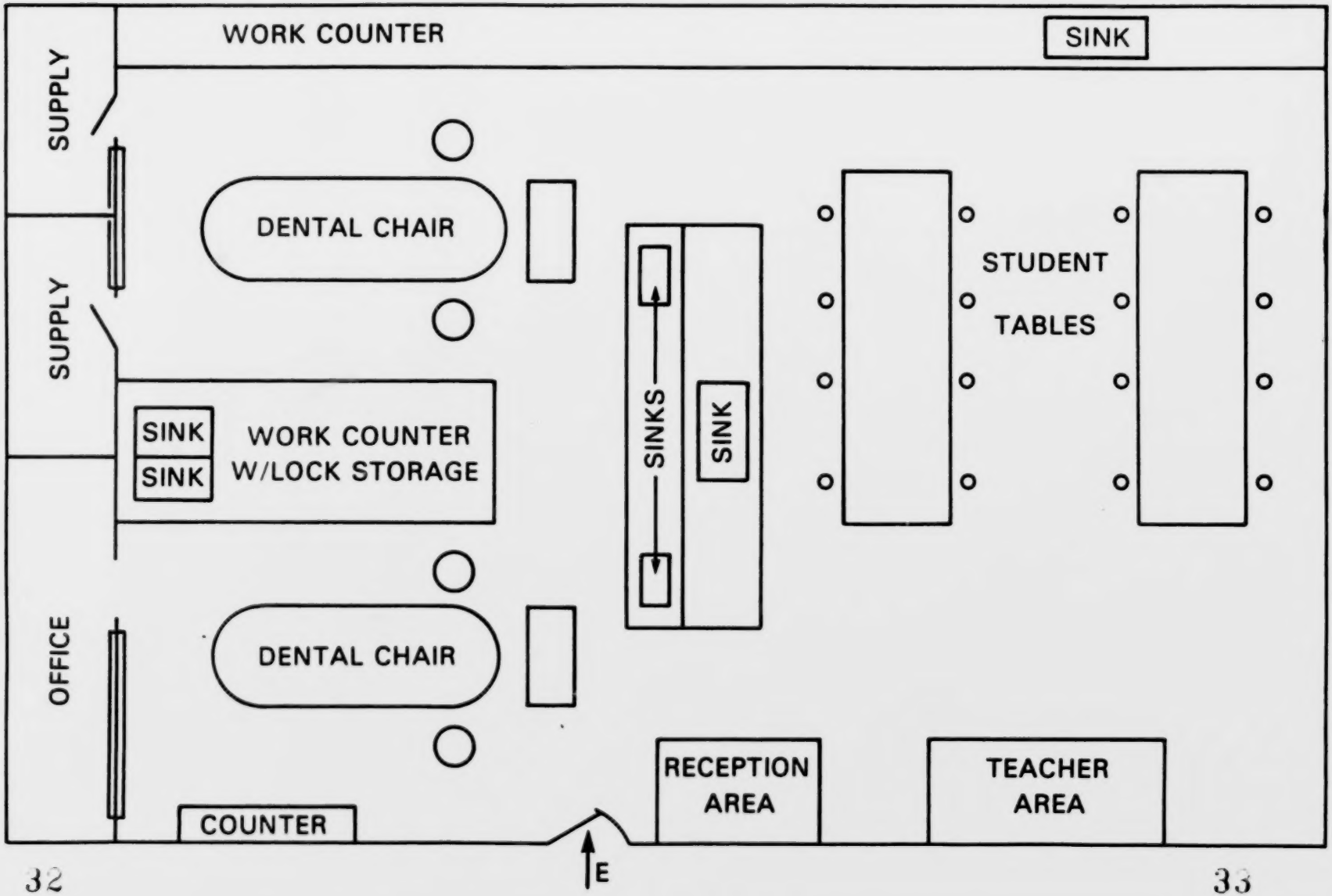
The laboratory area should have sufficient lighting for close detail work.

There should be provisions for specific dental laboratory equipment (i.e. furnace, casting machine, curing unit, pressure gas tanks, and sterilizing equipment).

Dental Treatment Lab
Functional Areas



Dental Laboratory Layout



RECOMMENDED EQUIPMENT

Autoclave

Bead Sterilizer

Ultrasonic Cleaner

Patient's Dental Chair

Operator's and Assistant's Chairs

Dental Light

Supply Cabinets

Vibrator

Model Trimmer

Triple Beam Balance

Surgical Instruments

Dental Handpieces

Amalgamator

Oral Evacuation Unit

Lathe

Instrument Sharpener

Copy Machine

Typewriter

Casting Machine

Furnace (Burnout)

Hanau Articulator

Computer/Word Processor

Curing Unit

Sand Blaster

Hygrobath

Porcelain Oven

Vacu Vestor

Bench Model Engines, Arm, & Handpiece

Surveyor

Bunsen Burners

Vacuum Forming Equipment

Pressure Cooker

Dental Torches

Compressor

Exhaust Equipment

Sphygmomanometer

Mobile Unit/Cabinets

Filing Cabinet

SAFETY AND HEALTH*
RECOMMENDED PROCEDURES AND PRACTICES

A comprehensive safety and health program is essential to the success of a quality dental program. The program provides for a safe environment and promotes lifelong attitudes and practices regarding safety and health.

PROGRAM - Learning experiences and activities are designed for the development of knowledge, skills, and attitudes concerning the safe use of tools, machines, materials, and processes.

1. Teachers should prepare a written plan for a comprehensive safety and health program.
2. Administrative personnel should provide input for and approval of the safety and health program.
3. Community resources should provide input to the safety and health program.
4. Safety and health information should be included in the instructions for all laboratory activities.
5. Teacher and student activities should reinforce safety and health instructions.
6. Safety and health instructions should be adapted to the individual student's needs.
7. Safety and health practices should be monitored continuously and reviewed annually by the teacher.
8. Local administrators should assess and make recommendations for the improvement of the safety and health program.
9. Proper authorities, external to the school, should inspect periodically and report on the safety and health program.
10. Teachers and administrators should review each recorded accident and all unsafe practices to correct deficiencies.

PHYSICAL ENVIRONMENT - The physical facilities and equipment are designed, constructed, and maintained to ensure a safe and healthful learning environment.

1. Laboratory facilities should meet appropriate safety and health laws and regulations.
2. Safety zones and aisles should be properly marked.
3. Proper exhaust systems equipment, which removes fumes, chips, and dust from the room, should be provided.
4. Proper equipment should be provided to heat, cool, and ventilate all instructional and ancillary zones.
5. Approved safe cabinets, containers, or rooms should be provided to store flammable and corrosive materials.
6. Special safety and health accommodations should be provided for students with special needs.

*Adapted from Standards for Industrial Arts Programs Project, Virginia Polytechnic Institute and State University, November 1981.

7. Floors and all other surfaces should be kept free of waste material, grease, and obstructions.
8. Floors should have non-skid surfaces, with special application on machine-operator work areas.
9. Each laboratory with powered equipment will have the equivalent of one easily accessible emergency disconnect switch (panic button).
10. Fire extinguishers of the correct class will be provided in appropriate locations.
11. A first-aid kit and related emergency supplies will be provided in accordance with local regulations.
12. Equipment will be selected on the basis of the ability to meet program objectives safely.
13. Machines and tools will be placed, mounted if necessary, and arranged in a safe and functional manner.
14. All machines and power tools will be provided with approved commercial guards and safety devices.
15. Safety guards will remain in place, except when the machine is disconnected for cleaning, repair, or adjustment.
16. Any machine or tool found to be unsafe will be removed from service until safety standards can be met.
17. Machines and work stations where dust or fumes are produced beyond acceptable health limits will be connected to an exhaust system.
18. Eye protection devices will be required of all persons exposed to conditions which may cause eye injury.
19. Respiratory protection devices will be required of all persons exposed to conditions which may cause respiratory problems.
20. Specially adapted personal protection devices will be available for and used by students with special needs.
21. Teachers and students will wear appropriate clothing when exposed to conditions which warrant such protection.
22. Personal protection devices requiring sanitation will be sanitized after each use.

RECORDS: Records are on file to document the existence of an effective safety and health program.

1. Lesson plans documenting provision for safety and health instructions should be on file.
2. Results of written and performance tests and observations documenting student safety and health knowledge, attitudes, and skills are on file.
3. Inspection, maintenance, repair, and replacement records will be current and on file.
4. Records of each accident and the follow-up procedures taken will be on file.
5. Emergency procedures for responding to accidents will be posted and on file.

CERTIFICATE OF PROFICIENCY

in *is awarded*

to

This Day of_____ 19_____

_____
Principal

_____
School, Country

_____
Instructor

LIST COMPETENCIES ON BACK OF CERTIFICATE AND INITIAL EACH ONE.

MAINSTREAMING IN DENTAL TECHNOLOGY
INDIVIDUALIZED EDUCATIONAL PROGRAMS
(IEP)*

Included in Public Law 94-142 is the concept of individualized educational programs for handicapped students. Each student is to have an individually prescribed program of studies, containing short- and long-term goals, based on the diagnosis of the student's learning abilities. The law states:

> "A written statement for each handicapped child developed in any meeting by a representative of the local educational agency or an intermediate educational unit who shall be qualified to provide, or supervise the provision of, specially designed instruction to meet the unique needs of handicapped children, the teacher, the parents or guardians of such child, and whenever appropriate, such child, which statement shall include (a) a statement of the present levels of educational performance of such child, (b) a statement of annual goals, including short-term instructional objectives, (c) a statement of the specific educational services to be provided to such child, and the extent to which such child will be able to participate in regular educational program, (d) the projected date for initiation and anticipated duration of such service, and (e) appropriate objective criteria and evaluation procedures and schedules for determining, on at least an annual basis, whether instructional objectives are being achieved."

Since the dental teacher will be involved in the planning and implementation of the instructional program for the particular dental course in which the handicapped students are enrolled, the instructor should make every effort to participate actively in the development of the IEPs. This active participation will help to ensure that unrealistic or unreachable goals are not established for those phases of the students' programs which include the dental teacher's area of expertise. Furthermore, planning appropriate instruction is crucial if handicapped students are to achieve their highest level of skill in the dental program. A side benefit of active participation in the writing of the IEP is the opportunity for working directly with the special education personnel, the students' parents, and the administration. Direct communication will help to prevent misunderstanding or confusion on the part of all parties involved.

One facet of the role of the teacher, or any other teacher, is to provide information to appropriate persons for the identification of students with special needs. The major parts of the teacher's role, however, are those traditionally associated with helping students to learn - instructing and evaluating students. However, assisting students with special needs will probably require that the teacher reexamine methods, materials, motivational devices, and evaluation techniques.

*Courtesy of South-Western Publishing Company, Cincinnati, Ohio, Mainstreaming in Business Education, Monograph 135, March 1981. (Revised to reflect Dental Technology)

DIAGNOSIS

Two vitally important elements essential to the development of the IEP are those of diagnosis and task analysis. The task analysis is based upon the interpretation of the diagnostic reports pertaining to the handicapped student.

The individual with special needs must first be identified, tested, and evaluated for learning according to the diagnosis of the special need. Once the diagnostic reports are adequately interpreted, the development of an appropriate program begins. Acting cooperatively, the dental teacher, special education resource persons, and other key professional staff members begin the process of planning the educational program for specific students. The basis for the planning is the development of the learner's profile which includes information about the student's learning strengths, weaknesses, and occupational interests.

TASK ANALYSIS

Inherent in the development of the IEP is the need for dental teachers to realistically assess methods, media, and content pertinent to any given course or occupational cluster. For the first time, coordinators and teachers may realize that not every student needs to complete every part of one course.

A study should be made of available resources and the competencies required for work in today's society. Each individual program for a special needs learner is planned, implemented, and evaluated by a team composed of representatives from the areas of expertise mentioned earlier. Periodic assessment of the learner's progress is used to provide information not only of educational gains, but of the status of the handicapping condition.

A career cluster analysis is similar to a job or task analysis. The planners are identifying skills, knowledges, and basic competencies to be incorporated into the individualized instructional plans for the learner. Thus, the team must identify tasks and the essential knowledges and skills necessary for the performance of the task within designated occupational clusters and/or courses. Additionally, the team must determine the competencies and the levels of competency that can realistically be achieved by the special needs student.

COMPETENCY PROFILE FOR VOCATIONAL TEACHERS
INSTRUCTING SENSORY AND PHYSICALLY
IMPAIRED STUDENTS*

A. Develop a positive attitude toward working with sensory and physically impaired in the regular program.

1. Assess own attitude toward working with handicapped students.
2. Participate in activities simulating handicapped conditions.
3. Identify myths, misconceptions, and stereotypes.
4. Identify handicapping characteristics of students.
5. Identify economic indicators supporting hiring of the handicapped.
6. Consult with persons working successfully with the handicapped to determine why they are committed.
7. Observe the handicapped in successful roles (e.g., on the job).
8. Interact with handicapped students.
9. Review legislation concerning handicapped.
10. Persist in the face of seeming failure.

B. Implement modifications in the physical setting.

11. Identify architectural barriers.
12. Recommend needed changes in facility design.
13. Determine the special safety conditions that may be required by the handicapped students.
14. Modify work stations as needed.
15. Secure/adapt appropriate equipment as needed by students.

C. Modify curriculum and instruction.

16. Identify and verify vocational skills needed by each student to meet career goals.
17. Identify and verify related skills (reading, math).
18. Identify jobs on career hierarchy/ladder.
19. Match/modify jobs on career hierarchy/ladder to students' abilities.
20. Determine if texts/materials are appropriate to students' reading levels.
21. Adapt materials to individual learning styles.
22. Develop materials to meet individual learning styles.
23. Teach job-seeking skills.
24. Teach job-survival skills.
25. Modify length of training period to meet students' needs.
26. Promote use of open-entry/open-exit programming.
27. Use a competency-based grading system to supplement 'grade' with competency profile.
28. Employ alternative teaching practices (e.g., peer tutoring, small-group discussions).
29. Individualize teaching practices.

*Courtesy of South-Western Publishing Company, Cincinnati, Ohio, Mainstreaming in Business Education, Monograph 135, March 1981.

30. Use specialized language instruction techniques (e.g., to teach vocabulary).
31. Use a multisensory approach to instruction.
32. Adapt/use media for individual needs (e.g., captions).
33. Simplify instruction of essential tasks.
34. Identify instruction resources, materials, and techniques available to the teacher.
35. Use supportive instructional services.
36. Provide frequent reinforcement and success experiences.
37. Review effectiveness of curriculum and instruction regularly, and update as required.
38. Modify instructional evaluation techniques as needed.

D. Participate in ongoing evaluation concerning sensory and physically impaired.

39. Develop skills in recognizing students with handicaps.
40. Review any existing student records.
41. Devise informal measures for assessing students' abilities.
42. Identify student learning styles.
43. Assess students' motor skills in relation to occupational skills required.
44. Determine if the disability is, in fact, a vocational handicap.
45. Participate in development of individualized student plans (e.g., IEPs).
46. Involve students/parents on an ongoing basis.
47. Monitor and update student goals based on student progress.
48. Provide student with realistic picture of job skills needed and time required to reach career goal.

E. Develop effective communications.

49. Establish rapport with students.
50. Facilitate the productive integration of the disabled with their peers.
51. Assist students in developing realistic goal-setting skills.
52. Involve students in developing their own individual programs.
53. Provide assertiveness training for students.
54. Teach appropriate situational responses/discrimination skills.
55. Secure feedback from individual students on how well the program is meeting their needs.
56. Use student contracts (performance contracting, behavior contracting).
57. Relate self-awareness activities to career goals.
58. Develop functional means (e.g., sign language) to communicate with students having communication deficits.
59. Observe nonverbal behaviors as indicators of feelings.
60. Ensure that your communication patterns (verbal, nonverbal) do not single out handicapped students as different.
61. Use active listening techniques.
62. Work cooperatively with other support/resource persons (e.g., interpreter, itinerant teachers) in the classroom.

63. Maintain liaison with special education personnel as needed or required.
64. Communicate with guardians, employers, agencies, and all others affecting handicapped students.
65. Facilitate the placement of handicapped students by working with employer.
66. Encourage administrators to support creative/alternative instructional approaches.

F. Identify and utilize supportive services (on campus and in the community).

67. Identify needs students have.
68. Obtain or develop a directory of support services.
69. Participate in activities designed to increase your knowledge of what services do and how to use them.
70. Inform students of relevant services available to them.
71. Match students' needs with available services.
72. Identify appropriate contact persons for teachers.
73. Initiate referral process as appropriate (inform service, refer student).

G. Provide aid in emergencies.

74. Be alert to the types of emergencies that might occur for individual students.
75. Identify legal implications involved in giving aid.
76. Identify emergency procedures to be followed.
77. Obtain training in types of aid for individual students.
78. Identify/contact emergency resources.

H. Continue professional growth.

79. Work toward improving the climate for acceptance in yourself, in colleagues, and in employers.
80. Review related literature.
81. Participate in orientations and workshops.
82. Observe/interact with colleagues who are doing a model job in teaching handicapped students.
83. Participate in experiences that promote creative development and exchange (e.g., problem sharing with colleagues).
84. Participate in/support professional groups dealing with handicapped.
85. Include in your own professional development plans steps to acquire additional skills for teaching the handicapped.

DOD DEPENDENTS SCHOOLS
DENTAL PROGRAM
SELF-ASSESSMENT EVALUATION

SCHOOL:_____ DATE:_____

INSTRUCTOR'S NAME: _____ TYPE OF LABORATORY: _____

INSTRUCTIONS: Below is a list of evaluative statements. The teacher should rate each item from 0 to 4. Four is the highest rating an item may receive, 0 is the lowest. Once the evaluation is completed, the ratings should be totaled. The total possible score is 100 points. This instrument is intended for the teacher's use in program diagnosis. It is suggested that this instrument be used midway and at the end of the program.

PART I (Program):

Special concerns of the dental program are common learnings needed by all persons to function effectively in our dental technological society: attitudes, interests, abilities and skills, problem solving, and understanding the world of work.

Ratings		Statements
4 3 2 1 0	1.	The program (includes all courses) is designed to serve students providing hands-on activities interpreting the technology of our society.
4 3 2 1 0	2.	All levels of the program foster technological adaptability as an exit competency.
4 3 2 1 0	3.	Opportunity is offered each student to discover and to develop personal talents in the realm of technology.
4 3 2 1 0	4.	Courses enroll students of all ability levels.

PART II (Curriculum):

Implementing a dental program requires a division of services and responsibilities among the various levels, grades, facilities, and instructors.

4 3 2 1 0	5.	Individual courses are designed to be a part of a total program of instruction and are reviewed yearly for possible improvement.
4 3 2 1 0	6.	A written course of study is used to guide each class with activities designed to relate to the adaptability goal, the age, and the ability level of the students.

4 3 2 1 0	7.	The course of study lists exit competencies, i.e., what the student will have when he/she leaves the course.
4 3 2 1 0	8.	A student/personnel system is instituted for maintaining an orderly lab environment.
4 3 2 1 0	9.	A daily log or teacher plan book is maintained as a class instructional record.
4 3 2 1 0	10.	A record of pupil attendance in class is maintained.
4 3 2 1 0	11.	A record of individual student progress and activities is kept.
4 3 2 1 0	12.	A description of each course offered is included in a handbook of courses for use by students, parents, and guidance counselors.

PART III (Instruction):

Effective class instruction combines cognitive information and tactile activities designed to enable students to perform with ideas, instruments, equipment, and materials.

4 3 2 1 0	13.	A lesson schedule, which includes 50 group presentations, is used with all classes.
4 3 2 1 0	14.	Teaching performance includes spontaneity, a relevant introduction, two-way communication, answerable questions, summation, and praise for participation.
4 3 2 1 0	15.	Students work without constant direction and/or questions.
4 3 2 1 0	16.	A variety of student project activities is evident.
4 3 2 1 0	17.	Provision is made for the display of student work.

PART IV (Facilities):

The presentation of instruction requires a laboratory environment with appropriate equipment/tools and an adequate supply of materials for student activity.

4 3 2 1 0	18.	Equipment represents a commitment to provide exploration in a wide variety of experiences rather than narrow, in-depth training.
4 3 2 1 0	19.	Guests and visitors routinely are invited and escorted to the dental department as it represents a "showcase" environment for instruction.
4 3 2 1 0	20.	Storage of tools, materials, and projects is organized to provide full use of all work areas and equipment and security for student work.
4 3 2 1 0	21.	Student clean-up activities are an integral part of the course of study.

PART V (Safety):

Provision for instruction in common safety practices, the development of student safety habits, and the establishment of a safe work environment represent a necessary part of dental education.

4 3 2 1 0	22.	Safety considerations are an integral part of all class and individual instruction.
4 3 2 1 0	23.	Equipment is fully guarded and procedures are implemented to assure compliance with good safety practices.
4 3 2 1 0	24.	Safety devices are worn as a common practice when warranted.
4 3 2 1 0	25.	A record of all accidents is maintained.

*BASIC TEXTBOOKS FOR

DENTAL TECHNOLOGY

(Approved for Adoption April 6, 1984)

TITLE	AUTHOR	PUBLISHER	COPYRIGHT DATE
The Dental Assistant	Anderson	Delmar, Inc.	1982

* For ordering these basic textbooks and other supplementary materials, refer to the DoDDS BOSS catalog.